REMARKS

Claims 1-9, 13, 15-38 and 59-63 are pending in the present application.

Claims 1, 13, 15, 16, 19 and 21-23 are amended herein.

All claims were previously rejected as being unpatentable under 35 U.S.C. 103(a).

The obviousness of a patented invention is a question of law based on findings of fact relating to the scope and content of the prior art, the differences between the claimed invention and the prior art, and the level of ordinary skill in the art [*Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966); *Glaverbel S.A. v. Northlake Marketing & Supply, Inc.*, 45 F.3d 1550, 1555 (Fed. Cir. 1995)]. It is well-settled that to establish a *prima facie* case of obviousness, the USPTO must satisfy all of the following requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time the invention must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or to combine references [*In re Fine*, 5 USPQ2d 1596. 1598 (Fed. Cir. 1988)]. Second, the proposed modification must have had a reasonable chance of success, as determined from the

vantage point of one of ordinary skill in the art at the time the invention was made [*Amgen v. Chugai Pharmaceutical Co.*18 USPQ2d 1016, 1023 (Fed. Cir. 1991), *cert. denied* 502 US 856 (1991)]. Third, the prior art reference or combination of references must teach or suggest all the limitations of the claims [*In re Wilson*, 165 USPQ 494, 496 (CCPA 1970)].

Claims 1, 3, 4, 5, 7, 16, 17, 19 and 21 were previously rejected under 35 U.S.C. 103(a) as being unpatentable over Bisconte (US 4,883,642) in view of Turner et al. (US 5,958,345).

Bisconte discloses in claim 1:

> "A device for the automatable analysis of biological samples, comprising:
> a flexible coiled, **non-hydrophobic polymeric ribbon**, said ribbon having two longitudinally extending laternal edges, a longitudinally extending biological storage zone for storing biological samples on a first lateral section of an upper surface of said ribbon, and a longitudinally extending first data storage zone longitudinally coextensive with said biological storage zone and made of a magnetic or optical data storage medium for storing said data specific to each biological sample to be stored on said biological storage zone, on a second lateral section of a longitudinal surface of said ribbon, said second lateral section being at a lateral edge of said ribbon and spatially distinct from said first lateral section, a longitudinally extending second data storage zone longitudinally coextensive with said biological storage zone and made of said data storage medium, for storing data specific to each biological sample to be stored on said biological storage zone, on a third lateral section of said ribbon at a

laternal edge of said ribbon and spatially distinct from said first and second lateral sections, said biological storage zone being positioned centrally with respect to said lateral edges and between said first and second data storage zones wherein said data storage medium of both said first and second data storage zones is attached to a lower surface of said ribbon, opposite said upper surface, so that said first and second data storage zones form, respectively, first and second shoulders downwardly depending from each said lateral edge, so as to form a reservoir between adjacent turns of said coil and between said lateral shoulders, said shoulders contacting the upper surface of said ribbon at an adjacent lower turn of said coil, said data storage medium being capable of storing data indicating the longitudinal location of any biological sample stored on said biological storage zone. " (emphasis added)

and in claim 7 Bisconte discloses:

"A device for the automatable analysis of biological samples, comprising:
a flexible non-hydrophobic polymeric ribbon, said ribbon having two longitudinally extending lateral edges, a longitudinally extending biological storage zone for storing biological samples on a first lateral section of an upper surface of said ribbon, and a longitudinally extending first data storage zone longitudinally coextensive with said biological storage zone and made of a magnetic or optical data storage medium for storing data specific to each biological sample to be stored on said biological storage zone, on a second lateral section of longitudinal surface of said ribbon, said second lateral section being at a lateral edge of said ribbon and spatially distinct from said first lateral section, a longitudinally extending second data storage zone longitudinally coextensive with said biological storage zone and made of said data storage medium, for storing data specific to each biological sample to be stored on said biological

storage zone, on a third lateral section of said ribbon at a lateral edge of said ribbon and spatially distinct from said first and second lateral sections, said biological storage zone being positioned centrally with respect to said lateral edges and between said first and second data storage zone, said data storage medium of both said first and second data storage zones being attached to a lower surface of said ribbon, opposite said upper surface, so that said first and second data storage zones form, respectively, first and second shoulders downwardly depending from each said lateral edge, so as to form a reservoir therebetween, said ribbon being wound about a first spool which is rotatably mounted within a cassette protecting said ribbon from dust;
a second spool, to which an end of said ribbon is attached, spaced apart from said first spool and rotatably mounted within said cassette; and
tensioning means for providing tension to said ribbon, positioned between said first and second spools,
wherein said biological zone comprises **a plurality of rows of polyhedral micro-wells** integral with said ribbon and disposed perpendicularly to said upper and lower surfaces of said ribbon. " (emphasis added)

In claim 8 Bisconte discloses:

"A device for the automatable analysis of a biological samples, comprising:
a flexible non-hydrophobic polymeric ribbon, said ribbon having two longitudinally extending lateral edges, a longitudinally extending biological storage zone for storing biological samples on a first lateral section of an upper surface of said ribbon, and a longitudinally extending first data storage zone longitudinally coextensive with said biological storage zone and made of a magnetic or optical data storage medium for storing data specific to each biological

sample to be stored on said biological storage zone, on a second lateral section of longitudinal surface of said ribbon, said second lateral section being at a lateral edge of said ribbon and spatially distinct from said first lateral section, a longitudinally extending second data storage zone longitudinally coextensive with said biological storage zone and made of said data storage medium, for storing data specific to each biological sample to be stored on said biological storage zone, on a third lateral section of said ribbon at lateral edge of said ribbon and spatially distinct from said first and second lateral sections, said biological storage zone being positioned centrally with respect to said lateral edges and between said first and second data storage zones, said data storage medium or both said first and second data storage zones being attached to a lower surface of said ribbon, opposite said upper surface, so that said first and second data storage zones form, respectively, first and second shoulders downwardly depending from each said lateral edge, so as to form a reservoir therebetween, said ribbon being wound about a first spool rotatably mounted within a cassette protecting said ribbon from dust;
a second spool, to which an end of said ribbon is attached, spaced apart from said first spool and rotatably mounted within said cassette; and
tensioning means for providing tension to said ribbon, positioned between said first and second spools,
wherein said biological zone comprises **a plurality of rows of cylindrical micro-wells** integral with said ribbon and disposed perpendicularly to said upper and lower surfaces of said ribbon. " (emphasis added)

Bisconte discloses a non-hydrophobic polymeric ribbon and hence teaches away from the use of a hydrophobic polymeric

ribbon as web. Furthermore, Bisconte omits to define the terms "non-hydrophobic" as applied to the polymeric ribbons, and lyophilized as applied to the products. Nowhere does Bisconte mention hydrophilicity. Bisconte also contains little indication of the size of the "microwells" other than at col. 6, lines 23-31, which discloses that:

> "By way of example, it should be pointed out that the capacity of a cassette with outer dimensions of 350 mm by 250 mm and containing spools having a diameter of 80 to 200 mm is about 6 m of ribbon of a thickness of 2 mm. The width is about 20 mm offering a useful surface of 10 mm. Thus, such a cassette may receive about 250 smears and 500 to 1000 histological sections depending on their size. Thus the space saved is of the order of 3 to 10 times with respect to slide boxes."

and at col. 9, lines 43-45, which discloses that:

> "With a cassette capable of comprising several thousand micro-wells, it is also possible to test in parallel between 30 and 50 inocculates." (Emphasis added)

Turner et al. in claim 1 discloses:

> "A sample holder for retaining a liquid sample in a localized region and configured for subsequent analytical processing in a beam of electromagnetic radiation, the sample holder comprising:
> a substantially planar sample support surface for providing a localized region for receiving a test sample and having a central portion and an exterior portion disposed to substantially surround the central portion, one of the central portion and the exterior portion having a hydrophilic surface, and the other of the central portion and the exterior portion having a hydrophobic surface, the central and exterior portions of the sample support surface

being formed of a material which resists spectral contamination."

and at col. 6, lines 1-12, Turner discloses that:

"The film 6 has a central portion 14, and an exterior portion 18 disposed to circumscribe the central portion. One of the central and exterior portions is formed of a hydrophilic material, while the other portion is formed of a hydrophobic material. Which portion is formed from which material depends on the liquid used to carry the analyte. **If the liquid in which the analyte is dissolved or suspended is hydrophilic, then the central portion 14 of the film 6 will be made of a hydrophilic material, and the exterior portion 18 of the film will be made from a hydrophobic material. In contrast, if the liquid to be used will be hydrophobic, the central section 14 will be hydrophobic and the exterior portion 18 will be hydrophilic.** " (emphasis added)

Turner et al. only refers to sample holders in, column 6, lines 51-52:

"The film 6 of the preferred embodiment consists of pure polyimide with thickness in the previously specified range. However, other films may be used, such as polyvinyl formal, polycarbonate, polypropylene, polyethylene, parylene, PROLENE.TM. (isotactic polypropylene) and MYLAR.TM.. Which material is preferred will depend primarily on whether the liquid to be used is hydrophobic or hydrophilic, and the configuration of the film with respect to forming a hydrophobic or hydrophilic central portion 14 with an exterior portion 18 of the opposite characteristics. "

One skilled in the art would not be likely to construe this as reading upon a web material. Turner et al. also omits to define the terms "hydrophilic" and "hydrophobic".

Present claim 4 discloses that the total amount of microwells present on said web material is larger than 1000 and claim 5 discloses that the ratio of the total length (L) of the web to its width is greater than 20.

> Bisconte contains little indication of the numbers of the "microwells" other than at col. 6, lines 23-31, and at col. 9, lines 43-45, both of which have been described previously.

We therefore contend that claims 4 and 5 are patentable over Bisconte in view of Turner et al. under 35 USC § 103(a). Present claim 7 discloses the presence of a plurality of markers on the web material in the web direction.

We therefore contend that claim 7 is patentable over Bisconte in view of Turner et al. under 35 USC § 103(a).

Claim 11 discloses that the flexible polymeric is chosen from polyesters and polyimides. There is no disclosure or indication of the use of polyimide as a substrate material in Bisconte, Turner et al. or in the combined teaching of Bisconte and Turner et al.

We therefore contend that claim 11 is patentable over Bisconte in view of Turner et al. under 35 USC § 103(a).

There is no disclosure in Bisconte or Turner et al. separately or in the combined teachings of Bisconte and Turner et al. that teaches a different hydrophilicity between the bottoms on the one hand and the composition of the separating zones and upstanding surfaces on the other. Furthermore, we contend that there is no disclosure in Bisconte or Turner et al. separately or in the combined teachings of Bisconte and Turner et al. that teaches a polyimide web, a hydrophilic woven textile, a textile comprising hydrophobic fibers that have been surface-treated with a polyimide web, a hydrophilic woven textile, a textile comprising hydrophobic fibers that have been surface-treated with hydrophilic coatings, flexible metal or a metal oxide substrate for a web material for combinatorial experimentation.

Present claim 16 discloses a method for manufacturing a web material having microwells for combinatorial experimentation as defined in claim 1, claim 17 is dependent upon claim 16 and claim 21 discloses an alternative method of manufacturing a web

material having microwells for combinatorial experimentation as defined in claim 1.

We contend that since the web material of amended claim 1 is patentable over Bisconte in view of Turner et al. under 35 USC § 103(a), that claims 16, 17 and 21 disclosing manufacturing processes for the web material of amended claim 1 will also be patentable over Bisconte in view of Turner et al. under 35 USC § 103(a).

Present claim 19 discloses a method for manufacturing a web material having microwells for combinatorial experimentation as defined in claim 1.

We contend that since the web material of amended claim 1 is patentable over Bisconte in view of Turner et al. under 35 USC § 103(a), that claim 19 disclosing a manufacturing process for the web material of amended claim 1 will also be patentable over Bisconte in view of Turner et al. under 35 USC § 103(a).

Applicants respectfully submit that claims 1, 3, 4, 5, 7, 16, 17, 19 and 21 are patentable over Bisconte (US 4,883,642) in view of Turner et al. (US 5,958,345).

Claims 2 and 6 were previously rejected under 35 U.S.C. 103(a) as being unpatentable over Bisconte (US 4,883,642) in view of Turner et al. (US 5,958,345) and Brown et al. (WO 98/47003).

Brown et al. in claim 1 discloses:

> "An analytical assembly for containing a fluid sample comprising a chemical substance, said assembly comprising: a plurality of sample chambers each confined in at least one dimension by opposing barriers separated by a first dimension of about 500 microns or less; means for sealing said plurality of sample chambers to prevent evaporation and contamination of sample constituents confined within said plurality of sample chambers; means for restraining reaction products formed from reactions of a chemical substance restrained within said plurality of sample chambers; and a sample containing at least one target nucleic acid molecule to be amplified and constituents for enabling amplification of the target nucleic acid molecule, said sample comprising a plurality of sample portions disposed in said plurality of sample chambers; wherein said first dimension and said means for restraining are such that the reaction product of a single target nucleic acid molecule amplified within at least one of said sample chambers can attain a concentration of reaction product molecules sufficient to be detected by a homogeneous detection array, and wherein at least one of said plurality of portions is free of said target nucleic acid molecule, and at least one of said plurality of portions contains at least one of said target nucleic acid molecules."

Present claims 2 and 6 disclose that the upstanding surface extends at most 500 µm above the bottom of the microwells and that the microwells have an internal volume smaller than 10 µl.

We contend that there is no motivation for one skilled in the art to combine the teachings of Bisconte, Turner et al. and Brown et al., since having failed to solve the problem of microwell capacity by combining the teaching of Bisconte with that of Turner et al., one skilled in the art would have looked for an alternative prior art teaching to combine with that of Bisconte rather than looking for a further document to combine with the teachings of Bisconte and Turner et al.

We further contend that even had one skilled in the art happened to combine the teachings of Bisconte, Turner et al. and Brown et al., there is no disclosure in Bisconte, Turner et al. or Brown et al. separately or in the combined teachings of Bisconte, Turner et al. and Brown et al. that teaches a different hydrophilicity between the bottoms on the one hand and the composition of the separating zones and upstanding surfaces on the other. Furthermore, we contend that there is no disclosure in Bisconte, Turner et al. or Brown et al. separately or in the combined teachings of Bisconte, Turner et al. and Brown et al. that teaches a polyimide web, a hydrophilic woven textile, a textile comprising hydrophobic fibers that have been surface-treated with a polyimide web, a hydrophilic woven

textile, a textile, comprising hydrophobic fibers that have been surface-treated with hydrophilic coatings, flexible metal or a metal oxide substrate for a web material for combinatorial experimentation.

We therefore contend that claims 2 and 6 are patentable over Bisconte in view of Turner et al. and Brown et al. under 35 USC § 103(a).

Claim 8 was previously rejected under 35 U.S.C. 103(a) as being unpatentable over Bisconte in view of Turner et al. and Odernheimer (US 5,216,925).

Odernheimer in claim 1 discloses:

> "Apparatus for the data-like storing of samples comprising:
> sorptive storage body means for sorbing a sample and recording of correlating data;
> means for continuous and automatic sample taking;
> sample storing head means for heating the sorptive storage body means and causing the sample to penetrate the sorptive storage body means;
> data recording head means for recording of the correlating data on said sorptive storage body means; and
> means for material and data-like evaluation of samples, penetrated into the sorptive storage body means and correlating data, comprising a sample taking head and a data reading head."

Claim 8 discloses that the marker according to claim 7 is a barcode present at the edge of the substrate.

We contend that there is no motivation for one skilled in the art to combine the teachings of Bisconte, Turner et al. and Odernheimer, since having failed to solve the problem of process control means by combining the teaching of Bisconte with that of Turner et al., one skilled in the art would have looked for an alternative prior art teaching to combine with that of Bisconte rather than looking for a further document to combine with the teachings of Bisconte and Turner et al.

We further contend that even had one skilled in the art happened to combine the teachings of Bisconte, Turner et al. and Odernheimer, there is no disclosure in Bisconte, Turner et al. or Odernheimer separately or in the combined teachings of Bisconte, Turner et al. and Odernheimer that teaches a different hydrophilicity between the bottoms on the one hand and the composition of the separating zones and upstanding surfaces on the other. Furthermore, we contend that there is no disclosure in Bisconte, Turner et al. or Odernheimer separately or in the combined teachings of Bisconte, Turner et al. and Odernheimer

that teaches a polyimide web, a hydrophilic woven textile, a textile comprising hydrophobic fibers that have been surface-treated with a polyimide web, a hydrophilic woven textile, a textile comprising hydrophobic fibers that have been surface-treated with hydrophilic coatings, flexible metal or a metal oxide substrate for a web material for combinatorial experimentation.

We therefore contend that claim 8 is patentable over Bisconte in view of Turner et al. and Odernheimer under 35 USC § 103(a).

Claim 9 was previously rejected under 35 U.S.C. 103(a) as being unpatentable over Bisconte in view of Turner et al. and Ishizaka et al.

Ishizaka et al. in claim 1 discloses:

> "A long-test-film, biochemical analysis cassette for biochemical analysis of a sample liquid, said biochemical analysis cassette comprising:
> i) an unused film cassette part accommodating an unused long test film which contains a reagent for biochemical analysis, and
> ii) a used film cassette part provided independent of and separate from said unused film cassette part for accommodating said long test film which has been pulled out of said unused film cassette part and used for biochemical analysis,

wherein said long test film is exposed at a portion between said used film cassette part and said unused film cassette part such that said used and unused film cassette parts are horizontally spaced from each other by the exposed portion of said long test film at least when said sample liquid is applied thereto and incubated therewith."

and at column 21, lines 21-26, discloses that:

"By way of example, the support 211 is constituted by a film of a light-permeable, water-impervious material, for example, a polymer such as polyethylene terephthalate, bisphenol-A polycarbonate, polystyrene, or a cellulose ester (e.g. cellulose diacetate, cellulose triacetate, or cellulose acetate propionate)."

Present claim 9 discloses that an identifier be present at the start and/or end of the web.

We contend that there is no motivation for one skilled in the art to combine the teachings of Bisconte, Turner et al. and Ishizaka et al., since having failed to solve the problem of process control means by combining the teaching of Bisconte with that of Turner et al., one skilled in the art would have looked for an alternative prior art teaching to combine with that of Bisconte rather than looking for a further document to combine with the teachings of Bisconte and Turner et al.

We further contend that even had one skilled in the art happened to combine the teachings of Bisconte, Turner et al. and Ishizaka et al., there is no disclosure in Bisconte, Turner et al. or Ishizaka et al., separately or in the combined teachings of Bisconte, Turner et al. and Ishizaka et al. that teaches a different hydrophilicity between the bottoms on the one hand and the composition of the separating zones and upstanding surfaces on the other. Furthermore, we contend that there is no disclosure in Bisconte, Turner et al. or Ishizaka et al. separately or in the combined teachings of Bisconte, Turner et al. and Ishizaka et al. that teaches a polyimide web, a hydrophilic woven textile, a textile comprising hydrophobic fibers that have been surface-treated with a polyimide web, a hydrophilic woven textile, a textile comprising hydrophobic fibers that have been surface-treated with hydrophilic coatings, flexible metal or a metal oxide substrate for a web material for combinatorial experimentation.

We therefore contend that claim 9 is patentable over Bisconte in view of Turner et al. and Ishizaka et al. under 35 USC § 103(a).

Claim 18 was previously rejected under 35 U.S.C. 103(a) as being unpatentable over Bisconte in view of Turner et al. and Naya (JP 11064213).

Naya in claim 1 discloses:

> "The sample plate which is equipped with the following and characterized by each aforementioned sample attaching part being what consists of hydrophobic films constituted as surrounded the ligation reaction film and this ligation reaction film of a hydrophilic property. It is the sample plate which supports an aquosity liquefied sample in measurement by the surface plasmon sensor, and is a transparent substrate. The metal membrane allotted on this transparent substrate. Two or more sample attaching parts formed on this metal membrane."

and in the abstract:

> "PROBLEM TO BE SOLVED: To manufacture a sample plate at low cost with ease which holds a plurality of samples at the same time.
> SOLUTION: A metal film 3 is allocated on a transparent substrate 2, a hydrophilic coupling-reactive film 4 is formed on the metal film 3, further, a hydrophobic negative photo-resist 5 is allocated on the coupling-reactive film 4, and the photo-resist 5 is exposed with a mask 7 of specified pattern and then developed so that the photo-resist 5 is specifically patterned, for forming a sample plate. Such part, after development, surrounded with a hydrophobic film 5a of a remaining photo-resist and a hydrophilic coupling-reactive film 4 is taken as a sample holding part 6."

Claim 18 discloses a method of manufacturing according to claim 16 wherein the solubility in the developer of the pattern-wise exposed parts is decreased so that the non-exposed parts are removed by the developer and the exposed parts are retained (negative working mode).

We contend that there is no motivation for one skilled in the art to combine the teachings of Bisconte, Turner et al. and Naya, since having failed to solve the problem of an alternative manufacturing process by combining the teaching of Bisconte with that of Turner et al., one skilled in the art would have looked for an alternative prior art teaching to combine with that of Bisconte rather than looking for a further document to combine with the teachings of Bisconte and Turner et al.

We further contend that even had one skilled in the art happened to combine the teachings of Bisconte, Turner et al. and Naya, there is no disclosure in Bisconte, Turner et al. or Naya separately or in the combined teachings of Bisconte, Turner et al. and Naya that teaches a different hydrophilicity between the bottoms on the one hand and the composition of the separating zones and upstanding surfaces on the other. Furthermore, we

contend that there is no disclosure in Bisconte, Turner et al. or Naya separately or in the combined teachings of Bisconte, Turner et al. and Naya that teaches a polyimide web, a hydrophilic woven textile, a textile comprising hydrophobic fibers that have been surface-treated with a polyimide web, a hydrophilic woven textile, a textile comprising hydrophobic fibers that have been surface-treated with hydrophilic coatings, flexible metal or a metal oxide substrate for a web material for combinatorial experimentation.

We therefore contend that claim 18 is patentable over Bisconte in view of Turner et al. and Naya under 35 USC § 103(a).

Claim 20 was previously rejected under 35 U.S.C. 103(a) as being unpatentable over Bisconte in view of Turner et al. and Oelbrandt et al. (US 6,033,740) and Birch (US 6,020,026).

Oelbrandt et al. in claim 1 discloses:

> "A method for making lithographic printing plates including steps of dispensing in a predetermined pattern curable hydrophobic ink from a printhead of a printer onto a lithographic base by spraying droplets of the ink onto the lithographic base in the predetermined pattern and curing the droplets of the ink sprayed on the lithographic base, wherein the lithographic base comprises a flexible support

having a cross-linked hydrophilic surface and the ink comprises an actinic light curable ink including as a polymerizable compound a phase change ink carrier composition."

Birch et al. in claim 1 discloses:

> "A process for the production of a coating on a substrate by dry transfer of a compound having an affinity for said substrate, wherein a surface of a transfer element is brought in contact with said substrate, said surface of said transfer element being at least partly impregnated with said compound, characterized in that a transfer element whose impregnated surface is flat and uniformly impregnated is placed in contact with a substrate containing a three-dimensional surface topography consisting of relatively high exposed parts and relatively low recessed parts whereby said exposed parts and said recessed parts differ in height by less than approximately 100 μm, so as to selectively apply the compound/coating onto the relatively high exposed parts of the substrate, leaving the relatively low recessed parts essentially free of compound, wherein said compound comprises a reactive functional group, and/or hydrolyzable reaction group, which reacts with groups present on the substrate surface, and reacting said functional and/or hydrolyzable group with said groups present on the substrate surface."

Claim 20 discloses a method of manufacturing according to claim 19 wherein the areas are applied by non-impact printing.

We contend that there is no motivation for one skilled in the art to combine the teachings of Bisconte, Turner et al., Oelbrandt et al. and Birch et al., since having failed to solve the problem of an alternative manufacturing process by combining

the teaching of Bisconte with that of Turner et al., one skilled in the art would have looked for an alternative prior art teaching to combine with that of Bisconte rather than looking for a further document to combine with the teachings of Bisconte and Turner et al. and even less combining the teaching of Birch et al. with the combined teaching of Bisconte, Turner et al. and Oelbrandt et al.

We further contend that one skilled in the art would have no motivation to consider combining the teaching of Bisconte and Turner et al. with that of Oelbrandt et al., that of Birch et al. or the combined teaching of Oelbrandt et al. and Birch et al., because Oelbrandt et al. and Birch et al. belong to the field of printing plates.

We also contend that even had one skilled in the art happened to combine the teachings of Bisconte, Turner et al., Oelbrandt et al. and Birch et al,, there is no disclosure in Bisconte, Turner et al., Oelbrandt et al. or Birch et al. separately or in the combined teachings of Bisconte, Turner et al., Oelbrandt et al. and Birch et al. that teaches a different hydrophilicity between the bottoms on the one hand and the composition of the separating zones and upstanding surfaces on

the other. Furthermore, we contend that there is no disclosure in Bisconte, Turner et al., Oelbrandt et al. or Birch et al. separately or in the combined teachings of Bisconte, Turner et al., Oelbrandt et al. and Birch et al. that teaches a polyimide web, a hydrophilic woven textile, a textile comprising hydrophobic fibers that have been surface-treated with a polyimide web, a hydrophilic woven textile, a textile comprising hydrophobic fibers that have been surface-treated with hydrophilic coatings, flexible metal or a metal oxide substrate for a web material for combinatorial experimentation.

We therefore contend that claim 20 is patentable over Bisconte in view of Turner et al., Oelbrandt et al. and Birch et al. under 35 USC § 103(a).

Claim 13 was previously rejected under 35 U.S.C. 103(a) as being unpatentable over Bisconte in view of Turner et al. and Richardson et al. (US 3,615,437) and Birch et al.

Richardson et al. in claim 1 discloses:

"A lithographic printing plate comprising a hydrophilic metal base, on the base (1) an image comprising a silver layer in intimate contact with the base formed by a silver salt diffusion transfer process, and (20) an oleophilic metallic layer formed by electrodeposition in intimate contact with and corresponding to the silver layer and forming an oleophilic overlayer on the silver image."

and Birch et al. in claim 1 discloses:

"A process for the production of a coating on a substrate by dry transfer of a compound having an affinity for said substrate, wherein a surface of a transfer element is brought in contact with said substrate, said surface of said transfer element being at least partly impregnated with said compound, characterized in that a transfer element whose impregnated surface is flat and uniformly impregnated is placed in contact with a substrate containing a three-dimensional surface topography consisting of relatively high exposed parts and relatively low recessed parts whereby said exposed parts and said recessed parts differ in height by less than approximately 100 μm, so as to selectively apply the compound/coating onto the relatively high exposed parts of the substrate, leaving the relatively low recessed parts essentially free of compound, wherein said compound comprises a reactive functional group, and/or hydrolyzable reaction group, which reacts with groups present on the substrate surface, and reacting said functional and/or hydrolyzable group with said groups present on the substrate surface."

We contend that the combined teachings of Bisconte and Turner et al. do not disclose that the substrate is a flexible

flexible polymeric material, a flexible metal or metal oxide e.g

an aluminium foil having a top layer of aluminum oxide applied by electrochemical oxidation.

We contend that there is no motivation for one skilled in the art to combine the teachings of Bisconte, Turner et al., Richardson et al. and Birch et al., since having failed to solve the problem of an alternative substrate by combining the teaching of Bisconte with that of Turner et al., one skilled in the art would have looked for an alternative prior art teaching to combine with that of Bisconte rather than looking for a further document to combine with the teachings of Bisconte and Turner et al. and then a still further document. Furthermore, Richardson et al. and Birch et al. belong to the art of printing plates and one skilled in the art would have had no motivation for combining these documents with Bisconte and Turner et al. to adduce the inventions of amended claim 1 and present claim 13 which teach a web material for combinatorial experimentation comprising a flexible polymeric material, a flexible metal or metal oxide substrate and multiple microwells.

We therefore contend that the inventions of claims 1 and 13 dependent thereon are patentable over Bisconte in view of

Turner et al., Richardson et al. and Birch et al. under 35 USC § 103(a).

Claims 22 and 23 were previously rejected under 35 U.S.C. 103(a) as being unpatentable over Bisconte in view of Turner et al. and either of Chateau (US 4,071,315) or Kolehmainen et al. (US 4,349,510).

We contend that the combined teachings of Bisconte and Turner et al. do not disclose that the substrate is a flexible flexible polymeric material, a flexible metal or metal oxide e.g an aluminium foil having a top layer of aluminum oxide applied by electrochemical oxidation.

We contend that there is no motivation for one skilled in the art to combine the teachings of Bisconte, Turner et al., Richardson et al. and Birch et al., since having failed to solve the problem of an alternative substrate by combining the teaching of Bisconte with that of Turner et al., one skilled in the art would have looked for an alternative prior art teaching to combine with that of Bisconte rather than looking for a further document to combine with the teachings of Bisconte and Turner et al. and then a still further document. Furthermore,

Richardson et al. and Birch et al. belong to the art of printing plates and one skilled in the art would have had no motivation for combining these documents with Bisconte and Turner et al. to adduce the inventions of amended claim 1 and present claim 13 which teach a web material for combinatorial experimentation comprising a flexible polymeric material, a flexible metal or metal oxide substrate and multiple microwells.

We therefore contend that the inventions of amended claim 1 and claim 13 dependent thereon are patentable over Bisconte in view of Turner et al., Richardson et al. and Birch et al. under 35 USC § 103(a).

Claims 15, 27-29,31, 34, 35, 38 and 59-61 were previously rejected under 35 U.S.C. 103(a) as being unpatentable over Bisconte in view of Turner et al. and Goodwin Jr. (US 5,210,021).

Goodwin et al. in claim 1 discloses:

"A method for performing chemotactic tests comprising:
(a) providing at least one membrane filter having a top and bottom side;
(b) placing drops of chemotactic factor at a first set of preselected locations on the top side of said at least one membrane filter;
(c) placing drops of controls at a second set of preselected locations on the top side of said at least one

membrane filter;
(d) turning said at least one membrane filter over such that the top side of said at least one membrane filter is now considered the bottom side of the at least one membrane filter wherein the chemotactic factors and controls are now on the bottom side of said at least one membrane filter;
(e) placing drops of cell suspensions on the top side of said at least one membrane filter, said drops of cell suspensions being placed opposite to the drops of chemotactic factors and controls;
(f) waiting an amount of time sufficient to allow the surface tension forces to equal the gravitational forces, thus stabilizing the chemotactic factors, controls, and cell suspensions and allowing a concentration gradient of the chemotactic factor to form;
(g) incubating said at least one membrane filter; and
(h) determining the response of the cell suspensions to the chemotactic factor concentration gradients and the controls."

and at column 2, lines 35-53, Goodwin discloses that:

"In its simplest form, the test apparatus consists of a sheet of membrane filter, typically 6 to 30 micrometers thick, attached to a rigid frame. The pores in the membrane are usually chosen to be between 2 and 14 micrometers. However, when cell bodies must be prevented from migrating, smaller pore sizes are used. Drops of chemotactic factor and drops of control are placed on one side of the filter in a well-defined pattern, e.g., 96 spots, 9 mm apart in a 12 x 8 array. The filter and frame are then turned over, and drops of a cell suspension are pipetted onto the other side, on spots corresponding to the initial placement of the chemotactic factors and controls. The drops can range in volume from 2 to 75 µl. The drops of fluid are held in place by surface tension. Gravity induces top-to-bottom flow after fluid is placed on both sides of the filter until the surface tension forces equal the gravitational forces. The fluid on both sides of the filter is held in place by capillary action and surface tension."

We contend that Bisconte and Turner et al. neither separately nor jointly indicate the possibility of microwells on both sides of a substrate. The Examiner refers to elements 14a and 14b shown in Figure 2(a) in Goodwin, Jr., which are hydrophobic coatings not the micro-wells of the present invention. Furthermore, element 11 is a filter not a web.

Amended claim 15 discloses:

> "A web material for combinatorial experimentation comprising a substrate in web form and multiple microwells, arranged on said substrate in a predetermined pattern and separated from each other by separating zones, each microwell comprising a bottom and an upstanding surface formed by the adjacent separating zones, wherein the composition of said bottoms on the one hand and the composition of said separating zones and upstanding surfaces on the other hand show a different hydrophilicity, wherein both sides carry said microwells."

We contend that there is no motivation for one skilled in the art to combine the teachings of Bisconte, Turner et al. and Goodwin, Jr., since having failed to solve the problem of increasing the capacity of the web material by combining the teaching of Bisconte with that of Turner et al., one skilled in the art would have looked for an alternative prior art teaching to combine with that of Bisconte rather than looking for a

further document. Furthermore, should one skilled in the art have happened to combine the teachings of Bisconte, Turner et al. and Goodwin, Jr., he would find that these combined teaching provide no hint or indication of microwells on both sides of a web material for combinatorial experimentation.

We therefore content that amended claims 15, 27-29, 31, 34, 45, 38 and 59-61 are patentable over Bisconte in view of Turner et al. and Goodwin, Jr. under 35 USC §103(a).

Claims 26 and 30 were previously rejected under 35 U.S.C. 103(a) as being unpatentable over Bisconte in view of Turner et al., Goodwin Jr. and Brown et al.

We contend that the combined teachings of Bisconte and Turner et al. do not disclose that the substrate is a flexible flexible polymeric material, a flexible metal or metal oxide e.g an aluminium foil having a top layer of aluminum oxide applied by electrochemical oxidation.

We contend that there is no motivation for one skilled in the art to combine the teachings of Bisconte, Turner et al., Goodwin et al. and Brown et al., since having failed to solve

the problem of an alternative substrate by combining the teaching of Bisconte with that of Turner et al., one skilled in the art would have looked for an alternative prior art teaching to combine with that of Bisconte rather than looking for a further document to combine with the teachings of Bisconte and Turner et al. and then a still further document.

The inapplicability of Goodwin has been discussed previously. Brown does not mitigate the deficiencies of the references with which it is combined.

We therefore contend that the inventions of amended claim 1 and claim 13 dependent thereon are patentable over Bisconte in view of Turner et al., Goodwin et al. and Brown et al. under 35 USC § 103(a).

Claim 32 was previously rejected under 35 U.S.C. 103(a) as being unpatentable over Bisconte in view of Turner et al., Goodwin Jr. and Odernheimer (US 5,216,925).

We contend that the combined teachings of Bisconte and Turner et al. do not disclose that the substrate is a flexible flexible polymeric material, a flexible metal or metal oxide e.g

an aluminium foil having a top layer of aluminum oxide applied by electrochemical oxidation.

We contend that there is no motivation for one skilled in the art to combine the teachings of Bisconte, Turner et al., Goodwin et al. and Odernheimer et al., since having failed to solve the problem of an alternative substrate by combining the teaching of Bisconte with that of Turner et al., one skilled in the art would have looked for an alternative prior art teaching to combine with that of Bisconte rather than looking for a further document to combine with the teachings of Bisconte and Turner et al. and then a still further document.

The inapplicability of Goodwin et al. has been discussed previously. Odernheimer is directed to an apparatus for sample taking and does not mitigate the deficiencies of the references with which it is combined.

We therefore contend that the claim 32 is patentable over Bisconte in view of Turner et al., Goodwin et al. and Ordenheimer et al. under 35 USC § 103(a).

Claim 33 was previously rejected under 35 U.S.C. 103(a) as being unpatentable over Bisconte in view of Turner et al., Goodwin Jr. and Ishizaka et al. (US 5,077,010).

We contend that the combined teachings of Bisconte and Turner et al. do not disclose that the substrate is a flexible flexible polymeric material, a flexible metal or metal oxide e.g an aluminium foil having a top layer of aluminum oxide applied by electrochemical oxidation.

We contend that there is no motivation for one skilled in the art to combine the teachings of Bisconte, Turner et al., Goodwin et al. and Ishizaka et al., since having failed to solve the problem of an alternative substrate by combining the teaching of Bisconte with that of Turner et al., one skilled in the art would have looked for an alternative prior art teaching to combine with that of Bisconte rather than looking for a further document to combine with the teachings of Bisconte and Turner et al. and then a still further document.

The inapplicability of Goodwin et al. has been discussed before. Ishizaka et al. does not mitigate the deficiencies of the references with which it is combined.

We therefore contend that the invention of claim 33 is patentable over Bisconte in view of Turner et al., Goodwin et al. and Ishizaka et al. under 35 USC § 103(a).

Claims 36 and 37 were previously rejected under 35 U.S.C. 103(a) as being unpatentable over Bisconte in view of Turner et al., Goodwin Jr., Richardson et al. (US 3,615,437) and Birch et al. (US 6,020,026).

We contend that the combined teachings of Bisconte and Turner et al. do not disclose that the substrate is a flexible flexible polymeric material, a flexible metal or metal oxide e.g an aluminium foil having a top layer of aluminum oxide applied by electrochemical oxidation.

We contend that there is no motivation for one skilled in the art to combine the teachings of Bisconte, Turner et al., Richardson et al. and Birch et al., since having failed to solve the problem of an alternative substrate by combining the teaching of Bisconte with that of Turner et al., one skilled in the art would have looked for an alternative prior art teaching to combine with that of Bisconte rather than looking for a further document to combine with the teachings of Bisconte and

Turner et al. and then a still further document. Furthermore, Richardson et al. and Birch et al. belong to the art of printing plates and one skilled in the art would have had no motivation for combining these documents with Bisconte and Turner et al. to adduce the inventions of amended claim 1 and present claim 13 which teach a web material for combinatorial experimentation comprising a flexible polymeric material, a flexible metal or metal oxide substrate and multiple microwells.

We therefore contend that claims 36 and 37 are patentable over Bisconte in view of Turner et al., Richardson et al. and Birch et al. under 35 USC § 103(a).

Claims 62 and 63 were previously rejected under 35 U.S.C. 103(a) as being unpatentable over Bisconte in view of Turner et al., Goodwin Jr. and either Chateau (US 4,071,315) or Kolehmainen et al. (US 4,349,510).

We contend that the combined teachings of Bisconte and Turner et al. do not disclose that the substrate is a flexible flexible polymeric material, a flexible metal or metal oxide e.g an aluminium foil having a top layer of aluminum oxide applied by electrochemical oxidation.

We contend that there is no motivation for one skilled in the art to combine the teachings of Bisconte, Turner et al., and either Chateau et al. or Kolehmainen et al., since having failed to solve the problem of an alternative substrate by combining the teaching of Bisconte with that of Turner et al., one skilled in the art would have looked for an alternative prior art teaching to combine with that of Bisconte rather than looking for a further document to combine with the teachings of Bisconte and Turner et al. and then a still further document.

The inapplicability of Chateau and Kolehmainen have been discussed previously.

We therefore contend that claims 62 and 63 are patentable over Bisconte in view of Turner et al., and either Chateau et al. or Kolehmainen et al. under 35 USC § 103(a).

Respectfully submitted,

March 29, 2004

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